WHAT IS CLAIMED IS:

1. An optical scanning apparatus comprising light source means, a first imaging optical system for converging light emitted from the light source means, deflecting means for deflecting the light from the first imaging optical system, a second imaging optical system for scanning a surface to be scanned, with the light deflected by the deflecting means, and at least one refraction optical element and one diffraction optical element in the first imaging optical system or in the second imaging optical system,

wherein a power of said diffraction optical element is set to a third power between a first power and a second power, where the first power is a power that the diffraction optical element has when focus movement on the surface to be scanned, caused by the refraction optical element with change of an oscillation wavelength of the light from the light source means, can be canceled by a power change of the diffraction optical element and the second power is a power that the diffraction optical element has when focus movement on the surface to be scanned, caused by the refraction optical elements with a change of ambient temperature, can be canceled by a power change of the diffraction optical element.

2. The optical scanning apparatus according to

Claim 1, wherein said diffraction optical element has the power in the sub-scanning direction.

3. The optical scanning apparatus according to Claim 2, wherein said diffraction optical element is provided in said first imaging optical system.

4. The optical scanning apparatus according to Claim 3, wherein said diffraction optical element is placed on a surface closest to said deflecting means in said first imaging optical system.

5. The optical scanning apparatus according to Claim 4, wherein said first imaging optical system comprises a cylindrical lens and the diffraction optical element is provided on one surface of said cylindrical lens.

6. The optical scanning apparatus according to Claim 5, wherein, where a longitudinal magnification of said second imaging optical system in the sub-scanning direction is αs (times), a focal length fcl (mm) of said cylindrical lens satisfies the following equation:

$$fcl \leq 500/\alpha s.$$

7. The optical scanning apparatus according to Claim 6, wherein said cylindrical lens includes no

position adjusting means for adjusting the position in the optical-axis direction.

8. The optical scanning apparatus according to Claim 7, which comprises a third imaging optical system for converging the light deflected by said deflecting means and guiding the light into light detecting means,

wherein said first imaging optical system comprises a cylindrical lens, said third imaging optical system comprises an imaging lens having a power at least in the main scanning direction, and said cylindrical lens and said imaging lens are integrally formed.

9. The optical scanning apparatus according to Claim 1, the following equation is satisfied:

$|d\Delta S\_T| \geq |d\Delta S\_\lambda|$ if $|d\Delta ST\_\lambda| \geq |d\Delta S\lambda\_T|$, or

$|d\Delta S\_T| \leq |d\Delta S\_\lambda|$ if $|d\Delta ST\_\lambda| < |d\Delta S\lambda\_T|$,

where $d\Delta S\lambda\_T$ is a focus movement amount with an ambient temperature change when the power of said diffraction optical element is the first power; $d\Delta ST\_\lambda$ is a focus movement amount with a change of an initial operating wavelength of said light source means when the power of said diffraction optical element is the second power; $d\Delta S\_T$ is a focus movement amount with the ambient temperature change and $d\Delta S\_\lambda$ is a focus movement amount with the change of the initial

operating wavelength of said light source means when the power of said diffraction optical element is the third power.

10. The optical scanning apparatus according to Claim 1, wherein the elements are set so that a focus movement amount with a change of 1 nm in the operating wavelength is not more than 0.3 mm.

11. An image-forming apparatus comprising the scanning optical apparatus as set forth in either one of Claims 1 to 10, a photosensitive body placed on said surface to be scanned, a developing unit for developing an electrostatic latent image formed on said photosensitive body with the light under scanning by said scanning optical apparatus, into a toner image, a transfer unit for transferring said toner image developed, onto a transfer medium, and a fixing unit for fixing the toner image transferred, on the transfer medium.

12. An image-forming apparatus comprising the scanning optical apparatus as set forth in either one of Claims 1 to 10, and a printer controller for converting code data supplied from an external device, into an image signal and supplying the image signal to said scanning optical apparatus.